

WHAT IS CLAIMED IS:

1. A method of allocating memory for a client network address translation (NAT) pool, said method comprising the steps of:

5 creating a control block that represents said client NAT address range;

creating a main pool header, said main pool header having an address referenced in said control block;

10 allocating at least one subpool header having a subpool memory block containing one or more fixed-length connection blocks that are allocated within said subpool memory block, said connection blocks containing client NAT addresses, said subpool header being referenced by said main pool header;

15 wherein said client NAT address ranges remains allocated within said subpool memory until the entire subpool memory is freed.

20 2. A method as in Claim 1, wherein said control block has a pool name property.

3. A method as in Claim 1, wherein said control block has a first IP address property.

25 4. A method as in Claim 1, wherein said control block has a last IP address property.

5. A method as in Claim 1, wherein said control block has a net mask property.

6. A method as in Claim 1, wherein said control block has a memory pool address property.

7. A method as in Claim 1, wherein said control
5 block has an initial number of connection blocks property.

8. A method as in Claim 1, wherein said control
10 block has a maximum number of connection blocks property.

9. A method as in Claim 1, wherein said control block has an interval list address.

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10. A method of allocating memory for a client network address translation (NAT) pool, said method comprising the steps of:

5 configuring a client network address translation (NAT) address range;

allocating said client NAT address range;

allocating memory for a memory pool;

creating said memory pool;

10 creating a subpool within said memory pool, said subpool containing a subpool memory block containing one or more connection blocks that are allocated within said subpool, said subpool constructed and arranged to contain client NAT addresses within said client NAT address range;

15 wherein said client NAT address range remains allocated within said subpool until said subpool is freed.

20 11. The method according to Claim 10, wherein said step of creating a subpool further comprises the steps of:

initializing said subpool;

allocating an interval within said subpool with at least one block; and

25 initializing said at least one block with client NAT addresses.

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12. The method according to Claim 10, wherein said method further comprising the step of:

allocating a new connection block in said memory pool;

5 allocating said new connection block to subpool.

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13. A method of allocating memory in software for a client network address translation (NAT) pool, said method comprising the steps of:

5 creating an internal control block that represents said client NAT address range;

 creating a main pool header;

10 allocating at least one subpool header having a subpool memory block containing one or more fixed-length connection blocks that are allocated within said subpool memory block, said connection blocks containing client NAT addresses, said subpool header being referenced by said main pool header;

15 wherein said client NAT address ranges remains allocated within said subpool memory until the entire subpool is freed.

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14. A memory allocation system for a computer, said system comprising:

a memory pool;

means for accepting user input parameters; and

5 means for creating a client network address translation subpool within said memory pool, said means for creating said client NAT subpool including means for allocating client NAT address range, means for allocating addresses within said client NAT address range, means for
10 freeing said addresses in said client NAT address range, and means for deallocating said client NAT address range;

wherein said client NAT address range remains allocated within said subpool until all of said addresses within said client NAT address range have been freed.

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